

ABSTRACT

5

Systems, devices and methods for compiling and fracturing optical fibers are disclosed. In one aspect, a device is disclosed for coupling and for fracturing optical fibers, comprising a housing for receiving a first end of a first optical fiber and a second end of a second optical fiber, a moveable member capable of moving with respect to the housing, a first electrode coupled to the moveable member and having a first electrode surface, a second electrode connected to the housing and having a second electrode surface, the first and second electrodes being positioned so that the first and second ends of the first and second optical fibers, respectively, are located adjacent to each other and between the first and second electrode surfaces of the first and second electrodes, the first and second electrodes are capable of receiving an electrical signal and passing a current through the first and second ends of the first and second optical fibers, the current fusing the first and second ends of the first and second optical fibers together to form a single optical fiber, and a cutting surface positioned such that upon movement of the moveable member, the single fiber is cut to form the first and second optical fibers having the first and second ends, respectively.

20